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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SHUNICHI HOSOYAMADA

Appeal 2008-0663
Application 09/925,601
Technology Center 2600

Decided: September 23, 2008

Before JOSEPH F. RUGGIERO, MAHSHID D. SAADAT,
and ROBERT E. NAPPI, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a Final Rejection of claims 1-18, 25-42, 49-51, 53, and 54. Claims 19-24, 43-48, and 52 have been indicated by the Examiner to be allowable. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

STATEMENT OF THE CASE

Appellant's invention relates to a method for driving an LCD to reduce flicker which involves a step of reversing a polarity of each of the data signals for every $2n$ pieces of the scanning electrodes and for every signal electrode in the display (Spec. 8-9).

Claim 1, which is representative of the claims on appeal, reads as follows:

1. A method for driving a liquid crystal display in which a liquid crystal cell is mounted at an intersection of each of a plurality of scanning electrodes placed at specified intervals in a row direction and each of a plurality of signal electrodes placed at specified intervals in a column direction, by sequentially feeding scanning signals to said plurality of said scanning electrodes and by sequentially feeding data signals to said plurality of said signal electrodes, said method comprising:

reversing a polarity of each of said data signals for every $2n$ (n is a natural number) pieces of said scanning electrodes; and

reversing a polarity for every said signal electrode in said liquid crystal display and sequentially feeding each of said data signals having the reversed polarity to each of corresponding ones of said signal electrodes.

The prior art applied in rejecting the claims on appeal is:

Moriyama

US 5,790,092

Aug. 4, 1998

Applicant's Admitted Prior Art (hereinafter AAPA), Specification 1-7 and Figures 12-16.

The Examiner rejected claims 1-18, 25-42, 49-51, 53, and 54 under 35 U.S.C. § 103(a) based upon the combination of AAPA and Moriyama.

ISSUE

Under 35 U.S.C. § 103(a), with respect to the appealed claims 1-18, 25-42, 49-51, 53, and 54, would the ordinarily skilled artisan have found it obvious to modify AAPA with Moriyama to render the claimed invention unpatentable?

PRINCIPLES OF LAW

To reach a conclusion of obviousness under section 103, the Examiner bears the burden of producing factual basis supported by teaching in a prior art reference or shown to be common knowledge of unquestionable demonstration. Our reviewing court requires this evidence in order to establish a *prima facie* case. *In re Piasecki*, 745 F.2d 1468, 1471-72 (Fed. Cir. 1984).

Furthermore, the test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. *See In re Kahn*, 441 F.3d 977, 987-988 (Fed. Cir. 2006), *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991) and *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

Section 103 forbids issuance of a patent when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”

KSR Int’l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1734 (2007).

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Leapfrog Enter., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir.

2007) (quoting *KSR*, 127 S. Ct. at 1739). “One of the ways in which a patent’s subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent’s claims.” *KSR*, 127 S. Ct. at 1742.

ANALYSIS

The rejection is based on AAPA for disclosing the elements of claim 1 except for the steps of reversing a polarity of each of the data signals and reversing a polarity for every signal electrode, for which the Examiner relies on Moriyama (Ans. 3-4). In particular, the Examiner points to Figures 13A and 13B of Moriyama where the polarity of the data signals and signal electrodes is shown to be reversed (Ans. 4).

Appellant does not dispute the teachings of AAPA with respect to the claimed elements and merely questions the propriety of such combination and whether the combination would have been obvious to one of ordinary skill in the art (App. Br. 10-11). Appellant specifically contends that applying Moriyama’s technique to AAPA would require such technique to be superimposed on AAPA which already incorporates a polarity reversal scheme to reduce flicker (App. Br. 11). Appellant further argues that, even if applied to AAPA, the patterns in Figures 13A and 13B of Moriyama do not satisfy the features recited in claim 1 since the polarity reversal of Moriyama is for “every electrode,” instead of the claimed “every 2n electrode” (App. Br. 13).

The Examiner responds that the rejection is based on the combination of AAPA with Moriyama’s technique (Ans. 8). The Examiner further asserts that one of ordinary skill in the art would have used such technique in

AAPA to reduce power dissipation in signal generation by reversing a polarity of each of data signals for every pixel signal electrode (Moriyama, col. 7, l. 65 to col. 8, l. 2). With respect to polarity reversal with respect to every $2n$ electrode, the Examiner argues that Figures 13A and 13B of Moriyama show reversing a polarity of every “+” to “-” for electrodes of the data signals for every $2n$ ($n=1$) pieces of scanning electrodes, such as P(1,1) and P(2,1), as required by claim 1 (Ans. 9).

We agree with the Examiner’s line of reasoning and find that Moriyama clearly provides a technique for solving the flicker problem which also reduces power dissipation. In fact, as stated by Appellant, (Reply Br. 1-2), the proposed combination provides a technique for reducing flicker to be used with the conventional LCD system disclosed in AAPA. In other words, we find Appellant’s assertion challenging the combinability of the references to be unpersuasive since according to *Leapfrog*, when combination of familiar elements according to methods known to the skilled artisan, such as using the polarity reversal technique of Moriyama for reducing flicker and power dissipation, achieves a predictable result, it is likely to be obvious.

With respect to Appellant’s argument related to the polarity reversal in Moriyama and whether it is applied to every electrode, rather than to every $2n$ electrode (App. Br. 13), we again agree with the Examiner that Moriyama reverses polarity of every electrode of data signal for every $2n$ pieces of scanning electrodes. In that regard, Moriyama shows in frames F1 and F2 (Figures 13A and 13B) that the polarity of each pair ($2n$) of neighboring pixels is reversed, such as P(1,1) and P(2,1), which requires reversal for every $2n$ pieces of scanning electrodes where $n=1$. (Col. 12, l.

61 to col. 13, l. 6). Contrary to Appellant's argument (Reply Br. 2), that some lines in Moriyama are not reversed, a comparison of Frame F1 in Figure 13A with Frame F2 in Figure 13B shows that the polarity is reversed for every signal electrode. We also find this argument to contradict Appellant's argument in the Appeal Brief stating that in Moriyama:

... the polarity reversal clearly occurs with every electrode, rather than with every 2n electrodes, such as shown in Figures 6A/6B of the present invention, ...
(App. Br. 13).

... this satisfaction of the described polarity reversal pattern for only one half of the lines of the LCD display fails to satisfy the plain meaning of the language of the final claim limitation of independent claim 1, since this language clearly requires that the reversal occur for every line of the LCD, not for every other line.
(Reply Br. 2).

The contradictory arguments made by Appellant notwithstanding, the polarity reversal of Moriyama provides for "reversing a polarity of each of said data signals for every 2n (n is a natural number) pieces of said scanning electrodes" and "reversing a polarity for every said signal electrode in said liquid crystal display," as discussed above.

We also disagree with Appellant's argument (App. Br. 14; Reply Br. 3) that the polarity reversal of Moriyama does not show a slanted orientation, as recited in claims 53 and 54. As shown in Figures 13A and 13B of Moriyama, the reversal of polarity based on a skewed pattern results in a flicker at an angle slanted relative to the vertical and horizontal lines. We note that the claims do not require a specific degree of slanted angle and therefore, the recited angle reads on the slanted pattern shown in Moriyama.

For all of the reasons discussed above, we simply find no error in the Examiner's position that using the polarity reversal technique of Moriyama would be recognized by the skilled artisan as an obvious enhancement to the LCD system disclosed in AAPA.

CONCLUSION OF LAW

Because Appellant has failed to point to any error in the Examiner's position, we sustain the 35 U.S.C. § 103 rejection with respect to claims 1, 53, and 54 and also with respect to claims 2-18, 25-42, and 49-51, which are not argued separately (App. Br. 13-14) over AAPA and Moriyama.

DECISION

The decision of the Examiner rejecting claims 1-18, 25-42, 49-51, 53, and 54 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. 1.136(a)(1)(iv).

AFFIRMED

gvw

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